

III. Remarks

A. Status of Claims

Claims 1, 2 and 6-8 are pending. Claims 1 and 2 are amended. Claims 3-5 are cancelled. Claims 6-8 are added. Accordingly, no new matter has been added.

B. Objections to the Specification

The objections to the specification have been obviated by the above-identified amendments. Applicants thank the Examiner for identifying the obvious typographically error of “doming” and “Kontent.” Applicants have reviewed the originally filed specification and have corrected other obvious errors, as necessary. However, with regard to “GaO”, the US publication is in error. The application as originally filed states CaO and Applicants respectively request that the application, when allowed, be published as a patent based on Applicants’ originally filed specification and subsequent amendments.

C. Objections to the Claims

The objections to Claim 1 has been obviated by the above amendments. Claims 3 and 4 are cancelled and the objections thereto are rendered moot.

D. Rejections Under 35 U.S.C. § 112, second paragraph, Should Be Withdrawn

Claims 1-4 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for the reasons set forth in the Office Action. Applicants traverse this rejection in view of the amended claims. Claims 1 and 2 have been amended to more clearly indicate the subject matter of the present invention. Claims 3 and 4 have been cancelled. Accordingly, Applicants respectfully request that this rejection be withdrawn.

E. Rejections Under 35 U.S.C. § 102(b) are Moot

Independent Claim 3 and dependent Claim 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by Polish Patent No. 180,380. To expedite prosecution, this rejection is rendered moot by the cancellation of Claims 3 and 4.

F. Rejections Under 35 U.S.C. § 103(a) Should Be Withdrawn

Independent Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Polish Patent No. 345,913 (hereinafter the “PL ‘913”) in view of Scheetz, et al., “Utilization of fly ash,” *Current Opinion in Solid State & Materials Science* (1998) 3:510-520 (hereinafter “Scheetz”) for the reasons set forth in the Office Action. Applicants respectfully traverse this rejection in view of the amended claims.

1. Cited References, Either Alone or in Combination, Fail to Teach Every Claim Limitation of Claim 1

To establish a prima facie case of obviousness, the Patent Office must show *inter alia* that the prior art teaches or suggests all the claim limitations. *Manual of Patent Examination and Procedure (MPEP)* § 2143.03; *In re Royka*, 490 F.2d 981 (Cust. & Pat.App. 1974).

Independent Claim 1, as amended, recites a method “for obtaining highly reactive calcium sorbents from a mixture of fine grained calcium carbonate and fly-ashes,” characterized in that “calcium carbonate is *being preliminary mixed* with ashes containing by weight from 25% to 45% of SiO₂, from 3% to 25% of Al₂O₃, from 10% to 40% of CaO, from 5% to 15% of SO₃, *and then the mixture is being mechanically de-agglomerated and activated.*” The Office Action alleges that PL ‘913 teaches all the features of Claim 1, except for the SO₃. To remedy this deficiency the Office Action turns to Scheetz for teaching a fly ash containing SO₃. However, as an initial matter PL ‘913 alone or in combination with Scheetz fails to teach all the claim limitations. In PL ‘913 only the calcium carbonate is mechanically de-agglomerated and activated. (*See Applicants’ specification*, page 1, lines 25-29). There is no preliminary mixing in PL ‘913 and there is no subsequent mechanical de-agglomeration and activation of that mixture in PL ‘913. The teachings of PL ‘913 are completely different from the recited claimed method in which the calcium carbonate is preliminary mixed with the fly ash and then that

mixture is mechanically de-agglomerated and activated. As provided in the specification, the usage of sorbent surface is more efficient according to the method recited in Claim 1. (*See* Applicants' specification, page 4, lines 11-15). Scheetz is only cited for teaching a fly ash containing SO₃ and cannot remedy the deficiencies of PL '913. In addition, the Office Action has not cited Scheetz for teaching mechanical de-agglomeration and activation by free particles collisions at the speed at least 8 m/sec. as claimed. Therefore, the cited references, either alone or in combination, fail to teach every claim, and thus Claim 1 is patentable over these references.

2. No Prima Facie Case having a Rationale Provided for Combining PL '913 in view of Scheetz

The Office Action has failed to provide evidence to support the combination of references in the manner set forth in the Office Action. The Office Action completely failed to provide any evidence to support or even mention how PL '913 would be combined with Scheetz. The US Supreme Court requires that evidence to support the combination of references should be made apparent. *KSR Int'l Co. v. Teleflex Inc.*, 550 US ___, 127 S.Ct. 1727, 1741 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The USPTO emphasized the importance of providing evidence in the recent guidelines regarding obviousness. (See 72 Fed. Reg. 57,527 (Oct. 10, 2007) ("Factual findings made by Office personnel are the necessary underpinnings to establish obviousness.")). Instead, the Office Action alleges that a *prima facie* case of obviousness is established based on the overlapping ranges of Scheetz with Claims 1 and 2. (*See* Office Action, page 8). The fact that Scheetz may teach an overlapping range is insufficient to support the *combination* of PL '913 and Scheetz in the manner proposed to arrive at Claims 1 and 2.

Claims 1 and 2 recite a fly ash that comprises from 5% to 15% of SO₃. The Office Action admits that PL '913 fails to teach a fly ash comprising SO₃. (*See* Office Action, page 8). To remedy this deficiency, the Office Action turns to Scheetz to remedy this deficiency by stating that such "SO₃ wt. % values render the claimed SO₃ range unpatentable." (*See* Office Action, page 8). The Office Action has only alleged that the overlapping ranges of Scheetz may establish a *prima facie* case of obviousness, but has not shown that the combination of PL '913 in view of Scheetz is obvious. The Office Action has not pointed to any portion of PL '913 that

would suggest using a different fly ash formulation. Instead the Office Action has merely found separate elements in two different references and used Applicants' application as a roadmap for combining the references. This improper hindsight cannot be a rationale basis for combining the references. Therefore, the rejection must be withdrawn.

G. New Claims

New Claims 6-8 depend from independent Claims 1 and 2, respectively. Accordingly, Claims 6-8 incorporate the features of independent Claims 1 and 2, and are patentable over the cited references for at least the same reasons as independent Claims 1 and 2.

H. Conclusion

In view of the foregoing, it is believed that this application is in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3536. All correspondence should be directed to the address given below.

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